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it is a low light level lens; we're afraid that you might burn it out pointing it at something too bright.

01 07 21 40 CDR Well, the earth is very, very bright. There is nothing in the lens you can burn out. The camera still seems to be working. We can give you a luminous reading of the earth right now if you like.

01 07 21 54 CC Hey, Frank, how about a couple of words on your health for wide world.

01 07 22 03 CDR Well, we are all in very good shape. Jim is busy working preparing lunch. Bill is playing cameraman right now, and I am about to take a light reading on the earth. We all feel fine. It was a very exciting ride on that big Saturn, but it worked perfectly, and we are looking forward now, of course, for the day after tomorrow when we will be just 60 miles away from the moon.

01 07 22 33 CC Roger. You all look great on candid TV.

01 07 22 44 CDR Okay. I just got a reading on the earth, Houston. It is 320. The earth is showing 320 lumens now. If you get a closeup of Jim Lovell, Bill, you can let everyone see he has already outdistanced us in the beard race. Jim has got quite a beard going already.

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01 07 23 28 CMP Happy birthday, Mother.

01 07 23 49 CDR Okay. Jim is going to take a shot of us from the lower equipment bay, and then we have to get back to our passive thermal control in the bar-b-que mode so that we don't get one side of the spacecraft too hot for too long at a time. So we will be signing off here, and we will be looking forward to seeing you all again shortly.

01 07 24 10 CC Roger.

01 07 24 13 CDR Goodbye from Apollo 8.

01 07 24 17 CC Thank you. That's a good show.

01 07 24 24 CDR I hope we can get that other lens fixed or some reading on it.

01 07 24 31 CC Roger. We are going to work on that one. The one that is sensitive to light is the lens that you were just using. You want to be careful about pointing that at some bright object.

01 07 24 43 CDR Roger. We are starting PTC again.

01 07 24 45 LMP I believe that's only if it hasn't been used for quite a while, Ken.

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01 07 40 04 CC Apollo 8, Houston.

01 07 40 08 CDR Go ahead Houston, Apollo 8.

01 07 40 10 CC Okay, I've got a few items for you I'd like to clear up and then we'll let you alone for a while. The first thing is we would like for you to confirm that your spot meter had an ASA setting of 100.

01 07 40 27 CDR That is confirmed.

01 07 40 30 CC Okay, we thank you. That's one of the first questions that came to mind. We are ready for a cryo fan cycle at any time and use your normal procedures.

01 07 40 47 CDR Okay.

01 07 40 49 CC All right. You can anticipate a fuel cell purge at 35 hours, and we ought to be through with battery A charging somewhere after 34 hours; and looks like you'll have just about a full battery there. And we will give you a call on the exact time to cut it off. We would like to get some confirmation from you on the chlorine procedures. Did you get some in last night or not? Just a quick summary of how much sleep you got on Lovell and Anders?

01 07 41 26 CDR Okay. We got the chlorine in and the water has been chlorinated and just a minute I will check with them on their sleep.

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01 07 41 40 CC I am sorry I didn't copy that sleep.

01 07 41 44 CDR Say again, Ken.

01 07 41 46 CC I am sorry I didn't copy your last, Frank.

01 07 41 50 CDR I was asking you to say to say what you said.  
Jim had about 4 hours sleep, and Bill had about  
3 hours sleep.

01 07 42 07 CC Okay. Thank you very much.

01 07 42 12 CDR We feel pretty good today. We would like to see,  
in looking over the flight plan - perhaps we ought  
to put the rest periods a little bit shorter and  
more frequent. It seems it might work out better.  
We got all out of kilter on it yesterday. We  
are sort of trying to get back in a normal cycle.

01 07 42 32 CC Okay. We will look into that.

01 07 42 44 CDR You all are doing good work. Keep it up.

01 07 42 46 CC Okay. Thank you. Looks like the only other  
thing we have left over is a COMM check and if  
we can work that in without interrupting your  
present schedule we would like to.

01 07 42 58 CDR Okay. Right now we are stopping for a break,  
but we will go ahead and do that. What does it  
involve?

01 07 43 06 CC Okay. We will need the high-gain antenna, and  
there should be no COMM loss during this mode.

01 07 43 22 CDR Okay, Ken. I think we are going to lose the high  
gain here shortly. Why don't we pick it up next  
time it comes around?

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01 07 43 27 CC Real fine.

01 07 43 31 CDR Remember, the most important part of the trip occurs in two days when we start back. So you all get better rested too.

01 07 43 40 CC We'll do that.

01 07 43 41 CC Affirmative, Apollo 8.

01 07 52 41 CDR Houston, we're starting the H<sub>2</sub> fan now.

01 07 52 51 CC Roger, thank you.

01 07 54 48 CDR Houston, you just wanted 2 minutes cycling on those fans don't you? Two minutes each?

01 07 55 04 CC That's affirmative, Apollo 8.

01 07 55 08 CDR Roger.

01 08 06 07 CDR Houston, Apollo 8 on high gain stand by for your communications check.

01 08 06 12 CC Okay, standing by.

01 08 11 26 CC Apollo 8, Houston.

01 08 11 31 CDR Go ahead Houston, Apollo 8.

01 08 11 33 CC Okay, Apollo 8. Looks like we're going to have to put this COMM test off because of some tracking requirements. We can do it in about an hour if this will not interfere with your present operations too much. It'll take maybe 15 to 20 minutes, and it will involve some conversation on the part of the people onboard the spacecraft. So if that's going to interfere with your sleeping and all, why go ahead and we'll defer to that and we'll pick

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these requirements up at another time. And,  
I've got a score here, looks like Baltimore 21  
to nothing.

01 08 12 16 CDR Who were they playing?  
01 08 12 26 CC How about Minnesota.  
01 08 12 30 CDR That's from that other league.  
01 08 12 33 CMP How did last year's Army-Navy game come out?  
01 08 22 47 LMP Houston, Apollo 8. Over.  
01 08 22 49 CC Go ahead, Apollo 8.  
01 08 22 53 LMP Roger. We've stirred up all the cryos. Could  
you give me your quantities, please?  
01 08 23 00 CC Okay. Stand by.  
01 08 23 04 LMP Roger. Be advised the CMP just hit the hay for  
awhile, and the LMP will go down in a little while.  
01 08 23 12 CC Okay. And our guys down here are watching high-  
gain antenna pointing program, so anytime you're  
not using the DSKY for anything else, they'd like  
to watch it for a couple of cycles, so if you  
would leave that NOUN 51 on the display it will  
help a lot down here.  
01 08 23 31 LMP Okay. Why don't you give us react angles, and  
we'll try that for the next time.  
01 08 23 44 CC Okay.  
01 08 24 37 CC Apollo 8, are you ready to copy some cryo quanti-  
ties?  
01 08 24 45 LMP I'm ready. How about O<sub>2</sub> first.

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01 08 24 47 CC Okay. O<sub>2</sub> tank 1, I show 88.1 percent.

01 08 24 55 LMP Okay. Could you give it to me in pounds, please?

01 08 25 02 CC Okay. You'll have to stand by while we convert that.

01 08 25 05 LMP Thank you.

01 08 25 15 LMP That's okay, Gene, go ahead, I'll take the percent.

01 08 25 19 CC Okay. We will try and get the pounds for you, too, Bill. Tank 1, oxygen 88.1.

01 08 25 29 LMP What time is that for?

01 08 25 30 CC This is present.

01 08 25 34 LMP 32:30, okay.

01 08 25 38 CC Okay, I've got 32:35. And O<sub>2</sub> - -

01 08 25 45 LMP In weight not percentage.

01 08 25 46 CC Okay, O<sub>2</sub> tank 1, 88.1, O<sub>2</sub> tank 2, 87.37.

01 08 26 14 LMP Is that 0.37 or 0.36?

01 08 26 17 CC 0.37.

01 08 26 22 LMP Roger, 2. Got it.

01 08 26 23 CC Okay, H<sub>2</sub> tank 1, 75.97. Tank 2, 78.06. Over.

01 08 26 50 LMP Okay, thank you very much. It looks good.

01 08 26 52 CC Okay, thank you.

01 08 40 03 CC Apollo 8, Houston.

01 08 40 07 CDR Go ahead, Houston, Apollo 8.

01 08 40 10 CC Okay. I've got a couple of things we need from you. I would like to get a battery C voltage. I would like to check a battery manifold pressure. Your high gain - -

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01 08 40 25 CDR Battery C is 37 volts.

01 08 40 28 CC Understand 37 volts on battery C. Is that affirm?

01 08 40 32 CDR 3, 7.

01 08 40 34 CC Okay, thank you. And if you can get to the battery manifold pressure, like to read that one.

01 08 40 42 CDR 0.6 volts.

01 08 40 44 CC All right understand 0.6 volts. The angles you asked for on the high-gain antenna are pitch minus 45, and yaw 90.

01 08 41 43 CDR Okay. Houston, this is Apollo 8. I'm going to just go into high gain now, and we're about ready to pick you up ... works on react.

01 08 41 50 CC Okay, and I have a scanning telescope star visibility item for you to pick up, when you're ready to copy that.

01 08 42 06 CDR Roger, we'll get that on high gain when we get back to you.

01 08 42 10 CC Okay, thank you.

01 08 42 11 CDR We'll come back on high-gain.

01 08 42 12 CC Roger.

01 08 42 23 CDR That's not fair, we're there already.

01 08 42 28 CC That's pretty good acquisition, huh?

01 08 42 34 CDR You guys are reading the DSKY. Go ahead Houston.

01 08 42 40 CC Okay, Apollo 8. Maybe we ought to try that one again next time, and the scanning telescope star visibility is scheduled for a 34 10 in the flight



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plan, and it'll be star number 31. The angles are roll 184.7, pitch 23.4, yaw 14.3, shaft and trunnion zero. Over.

01 08 43 28 CDR Understand; star 31, roll 184 7, pitch 23 4, yaw 14 3, and star shaft and trunnion at zero.

01 08 43 38 CC That's affirm, and that's copy star 31.

01 08 43 45 CDR That's Roger, 31.

01 08 43 47 CC Okay, thank you.

01 08 44 18 CDR Houston, Apollo 8.

01 08 44 20 CC Go ahead.

01 08 44 24 LMP The IMP would like to take a Seconal and hit the hay.

01 08 44 36 CC Okay. That's a GO.

01 08 44 41 LMP Okay, thank you.

01 08 44 45 LMP And that ...

01 08 50 06 CC Apollo 8, Houston.

01 08 50 10 CDR Go ahead, Houston.

01 08 50 12 CC Okay. We'd like to go ahead and get into this COMM check here, on the last of this high-gain period. If you're ready to go on it I'll read you some switches.

01 08 50 27 CDR Stand by. We're ready. Go ahead.

01 08 50 29 CC Okay. Number 1. S-band normal mode voice to VOICE.

01 08 50 43 CDR Go ahead - keep going.

01 08 50 44 CC Uptelemetry data to DATA.

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01 08 51 08 CDR Normal mode voice to VOICE. Uptelemetry data to DATA.

01 08 51 12 CC Okay, uptelemetry command to NORMAL.

01 08 51 17 CDR NORMAL.

01 08 51 18 CC High-gain antenna track, AUTO.

01 08 51 25 CDR Roger. Going AUTO.

01 08 51 27 CC High-gain antenna beam width to NARROW.

01 08 51 30 CDR Beam-width NARROW.

01 08 51 33 CC Okay, this will be our base-line data check.  
This will be a full uplink voice with ranging and full downlink.

01 08 57 53 CC Apollo 8, Houston. We are going to have to delay the COMM check again.

01 09 01 09 CDR Houston, Apollo 8. How do you read?

01 09 01 13 CC Apollo 8, Houston. Did you call?

01 09 01 18 CDR Roger. We lost you for a while there. Are you reading us there now?

01 09 01 20 CC Loud and clear now.

01 09 01 24 CDR Okay. Thank you. So are we.

01 09 01 36 CC Okay, Apollo 8. Do you want to try that AUTO REACT 33 plus 24 looks like a good time and the angles are the same. And the late ball scores is 24 to 14 - -

01 09 01 48 CDR ...

01 09 01 51 CC All right.

01 09 01 53 CDR Say it again.

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01 09 01 54 CC I say a late ball score there is - -  
01 09 01 55 CDR ... the ball score?  
01 09 01 56 CC 2, 4 to 1, 4.  
01 09 02 02 CDR Baltimore over the Vikings?  
01 09 02 05 CC Affirm.  
01 09 05 56 CDR Houston, Apollo 8.  
01 09 05 58 CC Go ahead, Apollo 8.  
01 09 06 02 CDR We have reached the scan limit on the high gain.  
What do you want us to do about it now?  
01 09 06 39 CC Apollo 8, what we would like to do with these  
angles is to set it in AUTO REACT over on panel 2,  
and it is under the tracking for the high-gain  
antenna, and it'll - the lower position will say  
REACT, and on the position dials we would like  
to set pitch to minus 45 and the yaw to 90.  
01 09 07 08 CDR Pitch minus 45, yaw 90.  
01 09 07 10 CC Okay. Stand by 1.  
01 09 07 15 CDR Roger. If we could leave it in REACT if you want  
to use the high gain, it would keep from waking us  
up every REV.

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01 09 10 32 CC Apollo 8, Houston. I think we may have gotten off on a tangent. These pitch and yaw angles that we called up to you for the high-gain antenna were in response to Bill's request to know what positions we could put on there for a - for the AUTO REACT position. The constraint still remains if we don't want to be on an OMNI antenna at the same time. We are in the AUTO REACT position; we should be in one or the other. So you can use that information if you want to try it out. Otherwise, the procedures you've been using all along will be just fine. Over.

01 09 15 41 CC Apollo 8, Houston. I am transmitting in the blind right now. Our downlink isn't working so well; I'm just going ahead on an uplink.

01 09 20 00 CDR Houston, do you read? Apollo 8.

01 09 20 03 CC Apollo 8, read you weak but clear now.

01 09 20 08 CDR Roger. Thank you.

01 09 20 10 CC Okay. Looks like we had a growl problem there.

01 09 20 18 CDR Roger.

01 09 33 31 CC Apollo 8, Houston.

01 09 33 34 CDR Go ahead.

01 09 33 38 CC Okay. Looks like we're - -

01 09 33 39 CDR Go ahead, Houston. Apollo 8.

01 09 33 40 CC - - Looks like we're in a good attitude to try this high-gain antenna on the COMM check one

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more time. I believe you're still on an OMNI.

Is that correct?

01 09 33 52 CDR Roger.

01 09 33 55 CC Okay. If we could try the high gain and maybe we can get started on this COMM check. I'd also like to verify that you've got the LMP and the CMP trying to get some sleep here, and we could use an oral temp from you, too.

01 09 34 16 CDR Roger. My temperature is 97.5.

01 09 34 20 CC Okay. Thank you.

01 09 34 24 CDR That's what it was this morning when I felt badly.

01 09 34 26 CC Alright; thank you.

01 09 35 24 CDR Do you want me to go to OMNI now, Ken?

01 09 35 26 CC I'd like for you to go to high gain.

01 09 35 28 CDR High gain?

01 09 35 29 CC Yes, sir.

01 09 35 33 CDR High gain.

01 09 35 40 CDR This is Apollo 8 on high gain.

01 09 35 44 CC Roger. Reading you kind of weak now, but we're gonna take a look at it.

01 09 36 24 CDR Houston, Apollo 8 on high gain.

01 09 36 27 CC Okay. I'm reading you loud with just a little background noise.

01 09 36 33 CDR Roger.

01 09 39 24 CC Apollo 8, Houston. We're not getting a good lock. I wonder if we could try making sure that we're in

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AUTO on the tracks and that we're in narrow beam width?

01 09 39 39 CDR Stand by.

01 09 40 00 CDR How's that, Houston?

01 09 40 04 CC Okay. That works real good.

01 09 42 07 CC Apollo 8, this is Houston. What we're doing right now is collecting baseline data, and we'll be in this mode for another couple of minutes and then we'll be moving out to the second signal.

01 09 43 55 CC Apollo 8, Houston. How do you read?

01 09 44 22 CC Apollo 8, Houston.

01 09 44 27 CDR Houston, Apollo 8. Read you five-by.

01 09 44 30 CC Okay. We are ... we have some ground problems, and we're reading you weak but clear. We're ready to start into our test. We're going to be changing our modes so you'll probably hear a burst of noise as we make the change. This will be a noise that sounds like an S-band onlock. However, your AEC leader will lock that off. This is due to the loss of modulation on the up-link. There will be about 2 minutes, and during this time, you will hear one burst of noise.

01 09 45 39 CC Apollo 8, Houston. Voice check. Over.

01 09 45 57 CC Apollo 8, Houston. Ready to check.

01 09 46 20 CC Apollo 8, Houston.

01 09 46 38 CC Apollo 8, Houston.

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01 09 46 43 LMP Go ahead, Houston.

01 09 46 48 CC Apollo 8, this is Houston. Do you read?

01 09 46 53 LMP That's affirmative.

01 09 46 54 CC Okay. Thank you. Were you reading all along?  
We just - This is the first time we've heard you  
call back.

01 09 47 02 LMP We've been reading you; we're trying to hold the  
noise down so we can get some sleep.

01 09 47 09 CC Roger. We'll be through with this in just a  
minute, I think.

01 09 47 13 LMP Roger. I will answer you, but I'll try to do  
it quietly.

01 09 47 18 CC Okay, Bill.

01 09 47 45 CC Okay, Apollo 8. The next portion of our test is  
like we did yesterday. We'll be changing the  
uplink modes to uplink command and ranging with  
no upvoice. We'll be in this mode for approxi-  
mately 2 and 1/2 minutes and send two test mes-  
sages. During this time, we will not have uplink.  
We are going to this mode at time 33:48:30, and  
we'll be back in this configuration at 33:50:00.  
Over.

01 09 50 59 CC Apollo 8, Houston. Radio check.

01 09 51 05 LMP Loud and clear, Houston.

01 09 51 07 CC Okay, fine. How about telemetry inputs PCM switch  
to LOW, please?

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01 09 51 17 LMP They're in LOW, Houston.

01 09 51 24 CC Roger.

01 09 52 53 CC Apollo 8, we've completed the third test; we're going into the final test now. PCM switch to HIGH, please.

01 09 54 01 CC Apollo 8, Houston. We're going to switch uplink to the upvoice backup for about 2 minutes, and may take a few seconds to link the transition. And we'll be back up at 33:56 in our normal mode to place the up-telemetry data switch to upvoice backup at this time. Over.

01 09 54 28 LMP Roger.

01 09 55 54 CC Apollo 8, Houston on backup voice.

01 09 56 00 LMP Loud and clear, Houston.

01 09 56 02 CC Okay, fine; thank you.

01 09 56 21 CC Apollo 8, let's go back up-telemetry data switch to DATA.

01 09 57 12 CC Apollo 8, Houston.

01 09 57 29 CC Apollo 8, Houston.

01 09 58 56 CC Stand by; guess we've got 85-foot site voice back now; the noise went away.

01 09 59 02 CC Apollo 8, Houston.

01 09 59 10 LMP Go ahead, Houston.

01 09 59 17 LMP Go ahead, Houston.

01 09 59 19 CC Okay, Apollo 8. That completes our COMM test. Thanks for your cooperation. And I've got a



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change here to NAV sightings that will come up at 32:20. And we want to change your star a little bit there. Are you ready to copy?

01 09 59 38 LMP Ready to copy.

01 09 59 40 CC Okay.

01 09 59 41 LMP Ready to copy.

01 09 59 43 CC Okay, Apollo 8. We would like to change the NAV sighting as follows: we would like to use star 26, that is, two-six; we would like to make it earth-near horizon for two sets, two sets. Then we would like to take star 16 earth-far horizon, one set. If star 26 earth-near horizon is not possible, star 16 earth-far horizon, one set, and star 22 earth-far horizon, one set. Over.

01 10 00 36 CDR Roger, Houston. Be advised the CMP is asleep ... putting those on for a while.

01 10 00 45 CC Okay. Stand by.

01 10 01 34 CC Apollo 8, okay; we can put this off. What we will probably need from you is some kind of an estimate of when you think somebody will be available to work on it, and we are working on how much lead time we need now.

01 10 01 56 LMP Stand by ...

01 10 01 58 CC Roger.

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01 10 02 08 CDR Houston, why don't you figure the CMP will sleep another couple of hours, then the LMP, and then the CDR up to about 43 hours equally. Over.

01 10 02 20 CC Okay.

01 10 02 25 CDR Then we will start off with the CMP again at about 44.

01 10 06 58 CC Apollo 8, Houston.

01 10 07 03 CDR Go ahead, Houston.

01 10 07 05 CC Okay. We can put off this NAV sighting. It was scheduled here at 34:20, and we can put it off, judging from your comments about sleeping, we would like to get it as soon as we can, and right now, our plans are to slide it 2 hours. We will do the P52 by sliding it back to the same thing since it is associated with the P23. So if that's a convenient time for you, why we will plan on that.

01 10 07 38 CDR We are doing the P52 now. Do you want us to continue?

01 10 07 43 CC Well, as far as we are concerned, that isn't going to help us any. We will have to do it over again anyhow.

01 10 07 54 CDR Okay. And what time do you want to do it?

01 10 07 57 CC Well, if you think Jim's going to be up in a couple of hours, why that will slide us 2 hours to 36:20.

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01 10 08 08 CDR Okay. We will go ahead and make another one there and pick it up then if that's okay.

01 10 08 12 CC Okay. That will be real fine. Thank you.

01 10 08 17 CDR What we are going to try to do is get back on the sleep cycle to those sleep periods just prior to LOI by taking shorter cycles for each man.

01 10 08 29 CC Real fine.

01 10 13 52 CDR Houston, Apollo 8.

01 10 13 57 CC Apollo 8, go ahead.

01 10 14 01 CDR How about giving us some REACT angles, and we'll stay in REACT.

01 10 14 05 CC Say again, please.

01 10 14 11 CDR Could you give us some REACT angles?

01 10 14 14 CC Wilco.

01 10 14 24 CDR Say again.

01 10 14 29 CC Apollo 8, this is Houston. I hadn't said anything at that time. We're digging some angles out for you now. In reference to your earlier question about the sleep cycle juggling and so forth: we agree with your comment. We would like to get back on the flight plan as far as the sleep cycles and so forth are concerned by the time we get into lunar orbit. So we'd like for you to use your own judgment about the most efficient way to accommodate the sleep cycles and proportion it up among yourselves. We would like

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to have you keep us informed of who's doing what and what your plans are. We have the one P23 that we had slipped 2 hours. We'd like to get the other one in. We can also adjust the time for the other P23, if it's going to conflict - I guess that's two more P23's. We can adjust the time for those if you'll let us know what your forecast is for when Jim will be available to take some sightings. So the big message is that we'd like to work around whatever your desires are. If you'll let us know, we'll pick some stars and some angles and have them ready for you.

01 10 15 44	CDR	Okay, Houston. The CMP will be up at 36 hours. The LMP is going to sleep now, and he'll sleep through until 40 and then I'll stagger that in and try to go to sleep around 30 to 37 so that by the time we get to day 3 we'll all be back on the same direct sleep cycle.
01 10 16 12	CC	Okay, real fine. Thank you.
01 10 16 28	CC	Apollo 8, Houston. REACT angles look like minus 45 in pitch, plus 90 in yaw, and 34 23 for the time.
01 10 16 41	CDR	Roger. Copy. This is good users REACT because it keeps the caution warning from going off again.
01 10 16 48	CC	Roger. I understand that. Are you leaving the high-gain antenna on after it swings over to the reset position?

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01 10 17 04 CDR Do you have any reason for us to use the high-gain antenna?

01 10 17 10 SC ECOMM, do you think we need that, really, very much?

01 10 17 13 CC Stand by.

01 10 17 15 SC Why can we just not use the high-gain antenna for a while? Getting high bit rate on the OMNI's. Okay, let's tell them that we'll just not worry about the OMNI for a while.

01 10 18 30 LMP Houston, this is the LMP. Before I hit the sack, could you give me a rundown on our systems the way you see them?

01 10 18 37 CC Okay, we'll put that together for you and we were just talking about the redundant ECS components check and we were going to put that off until everybody's had a chance to get some sleep. Trying to keep you from having going to the left-hand couch.

01 10 18 54 LMP Oh, that would be nice. I sent Lovell under the couch, though. I've got one man sleeping under the left couch here - right couch and one man sleeping on our right couch.

01 10 19 33 CC Okay. I understand you've got one under and one on the right couch.

01 10 19 39 LMP Roger. That's affirmed.

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01 10 19 41 CC Okay. And in reference to the OMNI versus the high gain, it looks like we can live with the OMNI antennas here for several more hours, if you would like to delete the use of the high gain.

01 10 20 10 LMP Okay. Goodnight, Houston.

01 10 20 16 CC Okay. Before you pitch your eyeballs there, we'd like to terminate the battery charge.

01 10 20 25 LMP I knew you guys would get me.

01 10 20 27 CC Got you.

01 10 20 35 LMP Okay. The battery A charge is terminated at 37.3 volts.

01 10 20 41 CC Okay. Thank you.

01 10 20 54 LMP Standing by for your systems status.

01 10 20 56 CC Okay. We're pulling that together now.

01 10 21 01 LMP How are the PU valve and SPS line temps looking?

01 10 21 05 CC Okay, I'll test that.

01 10 21 06 LMP We just had ... I understand.

01 10 25 53 LMP Systems look okay to you Houston?

01 10 26 09 CC Okay, Apollo 8. All the systems - giving a quick look around the room - look real fine. You've got an RCS quad update on the quantity, so you have that information. The SPS oxidizer feed-line temperature and the fuel temperature are both at 73 degrees. The cryo profile is running right on the line. Battery A - our calculations have 39.63 amp hours. Battery B, 37.94, and

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battery Charlie, 38.46. The COMM continues to be running ahead of predictions in quality and circuit margins. Everything else looks like it's real fine.

01 10 27 06 LMP Roger. Do you expect to have a low bit rate voice on the DSE of the OMNI's at lunar distances?

01 10 27 23 CC That's negative on DSE of the OMNI's. Not looking forward to that much improvement.

01 10 27 32 LMP Roger. We need about a 30-foot dish, I figure, for that on the spacecraft.

01 10 27 47 CC Roger. It runs up the fuel require for PTC, though, Bill.

01 10 27 56 LMP Roger.

01 10 39 36 CC Apollo 8, Houston.

01 10 39 40 CDR Go ahead, Houston, Apollo 8.

01 10 39 42 CC Okay. I know you're trying to be quiet, so I'll just read up some information to you. One of the things that we just turned up that might give you some confidence, if you lose oxygen cryo tank now: you have 80 pounds remaining now at CMSM sub. The limiting factor on single tank operation right now is the hydrogen tank which has a positive margin at CMSM sub, assuming our standard profile gives you about 143 hours. So it looks like you are over the hill on those. Notice that you're flying in the rate 2 position for you BMAGS

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which is fine. Only make sure that you still were maintaining a PTC attitude. Looks like you're pretty close to it.

01 10 40 41 CDR Roger. We are flying PFC, and I was wondering why it was going out of the deadband; now I know. Thank you.

01 10 40 47 CC Okay. Thank you.

01 10 40 51 CDR That's what happens when you let Anders fly. He's asleep so he can't defend himself.

01 10 41 12 CC Roger. But we've got it on tape though.

01 10 41 17 CDR Good. They're both conked out; how about just filling me in on some news, and I'll keep quiet just to give me some words on what's going on in the world.

01 10 41 34 CC Okay. Give me a few minutes to collect some data, and we'll do that.

END OF TAPE



APOLLO 8 AIR-TO-GROUND VOICE TRANSCRIPTION

(GOSS NET 1)

Tape 25  
Page 1

01 11 09 20 CDR Houston, Apollo 8. How do you read?

01 11 09 22 CC Loud and clear, Apollo 8.

01 11 09 28 CC I'm going to have a maneuver PAD and --

01 11 09 32 SC Houston, Apollo 8. How do you read?

01 11 09 35 CC I read you loud and clear, Apollo 8. How me?

01 11 09 45 CC Apollo 8, Houston.

01 11 09 53 CDR Hello, Houston. Apollo 8. Houston, Apollo 8.  
How do you read?

01 11 09 58 CC Apollo 8, loud and clear.

01 11 12 20 CDR Hello, Houston. Apollo 8. Go ahead.

01 11 12 24 CC Apollo 8, Houston. I believe we've lost our  
uplink. I'm transmitting in the blind. Read  
you loud and clear.

01 11 13 30 CDR Houston, Apollo 8. Houston, Apollo 8. How do  
you read?

01 11 13 38 CC Apollo 8, Houston. Read you loud and clear.  
We may have some uplink problems; transmitting  
in the blind, at this time. Over.

01 11 15 30 CC Apollo 8, Houston.

01 11 15 38 CC Apollo 8, Houston.

01 11 16 10 CC Apollo 8, Houston.

01 11 16 23 CT Hawaii Network GOSS Conference. How do you read?

01 11 16 32 CDR Houston, how do you read? Apollo 8.

01 11 16 34 CC Apollo 8, I read you loud and clear. How me?

01 11 17 31 CDR Houston, Apollo 8. How do you read?

01 11 17 35 CC Apollo 8, Houston. Over.